



Department of  
Environmental Protection  
Bureau of Land & Water Quality    Sept. 2001

O&M Newsletter

A monthly newsletter for wastewater discharge licensees, treatment facility operators, and associated persons

## Fall 2001 Exam

The fall 2001 Wastewater Operator Certification Exam will be given Wednesday -- November 14, 2001 in the usual locations, South Portland, Bangor and Presque Isle. Applications must be postmarked on or before Saturday, September 29, 2001 or delivered to our offices by Monday, October 1, 2001. Applications can be obtained by contacting Leslie Rucker at 287-9031 or by writing to Wastewater Operator Certification Program, Maine Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017.

## Fall Convention

Don't forget this year's Maine Wastewater Control Association's 35<sup>th</sup> Fall Convention. This year it will be held at a new site. Sebasco Harbor Resort. The convention dates are Sept. 26 thru 28, 2001. If you haven't registered and would like to attend contact MWWCA at (207) 623-9486 or 1-800-452-8786 (in Maine).

## For Practice

1. The laboratory test used to measure the concentration of hydrogen ions in water is called
  - a. Turbidity
  - b. pH
  - c. Alkalinity
  - d. oxidation-reduction potential (ORP)
2. The volt is:
  - a. the basic unit of electrical power
  - b. the basic unit of electrical potential
  - c. the basic unit of electrical resistance
  - d. the basic unit of electrical current
3. If too much aeration is provided in the aeration basin, what is most likely to happen in the secondary clarifier(s)?
  - a. the settling of the activated sludge will improve.
  - b. the oxygen uptake will increase.
  - c. the sludge will become bulky and hard to settle
  - d. there will be small floc particles on the surface of the clarifier

4. A wastewater treatment plant receives waste from domestic users and an industry. The influent flow is 750,000 g.p.d. and the influent BOD averages 175 mg/l. If an average of 0.17 lb/person/day is assumed for domestic waste, what is the population equivalent served by the plant
- 2,537
  - 6,439
  - 10,342
  - 34,582

## UPCOMING TRAINING COURSES

**September 10, 2001** in Augusta, ME – Universal Wastes in Maine – Morning and afternoon sessions - sponsored by Maine DEP, (207) 287-2651 - Approved for 4 hours.

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**September 11, 2001** in Lewiston, ME – Universal Wastes in Maine – Morning and afternoon sessions - sponsored by Maine DEP, (207) 287-2651 - Approved for 4 hours.

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**September 12, 2001** in Farmington, ME – Universal Wastes in Maine – Morning and afternoon sessions - sponsored by Maine DEP, (207) 287-2651 - Approved for 4 hours.

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**September 12, 2001** in Presque Isle, ME – Basic Math Skills for Operators - sponsored by MRWA, (207) 729-6569 - Approved for 4 hours.

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**September 13, 2001** in South Berwick, ME – Cross Connection Control - sponsored by MRWA, (207) 729-6569 - Approved for 3.5 hours.

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**September 13, 2001** in Portland, ME – Universal Wastes in Maine – Morning and afternoon sessions - sponsored by Maine DEP, (207) 287-2651 - Approved for 4 hours.

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**September 14, 2001** in Sanford, ME – Universal Wastes in Maine – Morning and afternoon sessions - sponsored by Maine DEP, (207) 287-2651 - Approved for 4 hours.

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**September 14, 2001** in Dorchester, MA – Opportunities for Urban Wetland Restoration - sponsored by NEWEA, (781) 939-0908 - Approved for 5 hours.

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**September 20, 2001** in Belfast, ME – Cross Connection Control - sponsored by MRWA, (207) 729-6569 - Approved for 3.5 hours.

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**September 20, 2001** in Presque Isle, ME – Care & Maintenance of Laboratory Instruments and Preparing for a Laboratory Inspection - sponsored by MRWA, (207) 729-6569 - Approved for 5 hours.

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**September 25 October 2, 9, 16, 2001** in Scarborough, ME – Applied Math for Wastewater & Collection System Operators - sponsored by MRWA, (207) 729-6569 - Approved for 12 hours.

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**September 25, 2001** in Caribou, ME – Universal Wastes in Maine – Morning and afternoon sessions - sponsored by Maine DEP, (207) 287-2651 - Approved for 4 hours.

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**September 26, 2001** in Machias, ME – Universal Wastes in Maine – Morning and afternoon sessions - sponsored by Maine DEP, (207) 287-2651 - Approved for 4 hours.

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**September 27, 2001** in Bangor, ME –  
Universal Wastes in Maine – Morning and  
afternoon sessions - sponsored by Maine  
DEP, (207) 287-2651 - Approved for 4  
hours.

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**September 28, 2001** in Bangor, ME –  
Universal Wastes in Maine – Morning and  
afternoon sessions - sponsored by Maine  
DEP, (207) 287-2651 - Approved for 4  
hours.

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**October 3, 2001** in Saco, ME – Morning  
Session - Storm Water Pollution Prevention  
for Industry – sponsored by JETCC, (207)  
767-2649 – Approved for 3 hours

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**October 3, 2001** in Saco, ME – Afternoon  
Session - Storm Water Pollution Prevention  
for POTWs – sponsored by JETCC, (207)  
767-2649 – Approved for 3 hours

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**October 3, 2001** in Presque Isle, ME –  
Chemical Feed Systems – sponsored by  
Maine Rural Water Association, (207) 729-  
6569– Approved for 16 hours

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**October 4, 11, 18, 25, 2001** in Waterville,  
ME – NPDES Laboratory Class (4 Weeks) –  
sponsored by Maine Rural Water  
Association, (207) 729-6569– Approved for  
16 hours

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**October 4, 2001** in Millinocket, ME –  
Chemical Feed Systems – sponsored by  
Maine Rural Water Association, (207) 729-  
6569– Approved for 16 hours

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**October 11, 2001** in Norway, ME – Cross  
Connection Control - sponsored by  
MRWA, (207) 729-6569 - Approved for 3.5  
hours.

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**October 16, 2001** in Bangor, ME -  
Applying Process Control Tests to WWTP

Operations – sponsored by JETCC, (207)  
767-2649 – Approved for 6 hours

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**October 15, 2001** in Presque Isle, ME –  
Wastewater Operator Certification Review –  
Grades I, II & III – sponsored by Maine  
Rural Water Association, (207) 729-6569–  
Approved for 6 hours

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**October 16, 2001** in Presque Isle, ME –  
Wastewater Operator Certification Review –  
Grades IV & V – sponsored by Maine Rural  
Water Association, (207) 729-6569–  
Approved for 5 hours

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**October 18, 2001** in Mexico, ME – Safety  
& Health Programming in the Utilities  
Industry – sponsored by Maine Rural Water  
Association, (207) 729-6569– Approved for  
4 hours

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**October 23 & 30, 2001** in Kittery, ME –  
Wastewater Microbiology and Filament  
Staining & Identification – sponsored by  
Maine Rural Water Association, (207) 729-  
6569– Approved for 8 hours

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**October 23 & 24, 2001** in Portland, ME -  
Basic Wastewater Treatment w/ Applied  
Math– sponsored by NEIWPCC/JETCC,  
(207) 767-2649 – Approved for 6 hours

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**October 30, 2001** in Houlton, ME – Cross  
Connection Control - sponsored by  
MRWA, (207) 729-6569 - Approved for 3.5  
hours.

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**October 30, 2001** in Brewer, ME -  
Physical/Chemical Treatment in WWTF–  
sponsored by JETCC, (207) 767-2649 –  
Approved for 6 hours

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**October 31, 2001** in Presque Isle, ME -  
Pump Station Control Panel Seminar–  
sponsored by JETCC, (207) 767-2649 –  
Approved for 6 hours

**November 5, 2001** in Augusta, ME –  
Wastewater Operator Certification Review –  
Grades I, II & III – sponsored by Maine  
Rural Water Association, (207) 729-6569–  
Approved for 6 hours

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**November 6, 2001** in Augusta, ME - Basic  
Chemistry– sponsored by JETCC, (207)  
767-2649 – Approved for 6 hours

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**November 6, 2001** in Augusta, ME –  
Wastewater Operator Certification Review –  
Grades IV & V – sponsored by Maine Rural  
Water Association, (207) 729-6569–  
Approved for 5 hours

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**November 8, 2001** in Freeport, ME – Safety  
& Health Programming in the Utilities  
Industry – sponsored by Maine Rural Water  
Association, (207) 729-6569– Approved for  
4 hours

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**November 28, 2001** in Presque Isle, ME -  
Intro to Microsoft Office 2000– sponsored  
by JETCC, (207) 767-2649 – Approved for  
6 hours

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**November 27, 2001** in Waterville, ME -  
Emerging Wet Weather Flow Issues–  
sponsored by NEIWPCC/JETCC, (207)  
767-2649 – Approved for 6 hours

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**Dec 4, 2001** – in Lincoln, ME - Basic Excel  
Spreadsheets with Tips for Using your e-  
mail Effectively – sponsored by JETCC,  
(207) 767-2649 – Approved for 6 hours

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**Dec 6, 2001** – in Waterville, ME - Emerging  
Wet Weather Flow Issues – sponsored by  
NEIWPCC/JETCC, (207) 767-2649 –  
Approved for 6 hours

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**Dec 11, 2001** in Kittery, ME - Computer  
Databases for the Intermediate User–  
sponsored by JETCC, (207) 767-2649 –  
Approved for 6 hours

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### **Answers to *For Practice*:**

1. b. pH measures the concentration of hydrogen ions in water. Neutral pH (pH = 7) means that there is a balance of hydrogen ( $H^+$ ) ions and hydroxide ( $OH^-$ ) ions in the water. When there are more hydrogen ions, the pH is lower. This is an acid condition. When there are more hydroxide ions, the pH is higher. This is an alkaline condition.
2. b. The volt is the unit used to express electrical potential.
3. c. Too much aeration will cause the sludge to become over-oxidized resulting in pin-floc formation. Pin floc do not settle well and will be carried up and over the weirs. Over-aeration may also cause well-formed floc particles to shear, breaking them into smaller clumps which do not settle well.
4. b.  $750,000 \text{ gallons} = 0.75 \text{ MG}$   
 $\text{Plant Loading} = 0.75 \text{ MG} \times 175 \text{ mg BOD/L} \times 8.34 \text{ lb/gallons} = 1,095 \text{ lb BOD/day}$   
 $1,095 \text{ lb BOD/day} / 0.17 \text{ lb/person/day} = 6,439 \text{ persons}$